

Notice of Allowability

Application No.

09/444,388

Examiner

Jehanne E Souaya

Applicant(s)

HIBINO ET AL.

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/14/2003.
2. ☒ The allowed claim(s) is/are 8 and 10-15.
3. ☒ The drawings filed on 22 November 1999 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____ | 6 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Please cancel claims 6 and 7. Claims 6 and 7 are drawn to non elected inventions. Election was made without traverse in a telephone conversation on January 18, 2001. The election was affirmed in the paper filed 8/13/2001.

REASONS FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance: the claims are drawn to a method for identifying DNA for polymorphic forest tree plants comprising the steps of a) selecting two sibling individuals of a forest tree plant having different phenotypes; b) obtaining genomic DNA from the two individuals; c) selecting DNA fragments by an inter-individual genome subtraction method using the genomic DNA from the two individuals; d) providing a labeled cDNA probe derived from all mRNA obtained from the two individuals, wherein the cDNA is selected and amplified by oligonucleotide primers in a polymerase chain reaction; e) fractionating the DNA fragments obtained by the genome subtraction of step c) and screening the DNA fragments with the RNA-derived labeled probe of step d); f) performing intra-individual subtraction with the genomic DNA of one of the two individuals; and g) comparing the DNA fragments of steps e) and f) to exclude the DNA fragments containing intra-individual polymorphisms and identifying the DNA fragments that are polymorphic between the

individuals. The closest prior art is that of Philips in view of Wigler and further in view of Pinyopusarerk, outlined on pages 3- the first paragraph of 7 and the last paragraph of page 8 of the previous office action. The claims are allowable over the closest prior art because Phillips in view of Wigler and further in view of Pinyopusarerk do not teach or fairly suggest the steps of performing intra-individual subtraction with the genomic DNA of one of the two individuals and comparing the DNA fragments of steps e) and f) to exclude the DNA fragments containing intra-individual polymorphisms and identifying the DNA fragments that are polymorphic between the individuals (referring to independent claim 8). The previous office action stated that such a step was obvious over the teachings of Frazer et al. However, applicant's arguments on page 10 of the paper filed 8/14/2003 were found persuasive in overcoming the rejection in view of Frazer et al. Frazer teaches away from performing an intra-individual genome subtraction step by teaching "in our experience with RDA we have never isolated any housekeeping genes or other messages known to be present in both tester and driver populations originally" (page 8, right column, lines 17-20). Thus, Frazer taught that no intra-individual subtraction needs to be done as a control step in RDA. In addition, Chang et al (Science, vol. 266, December 1994, p 1865; as cited by Frazer) further teaches away from performing intra-individual genome subtraction in an RDA method in that Chang et al did not find intra-individual subtraction of genomic DNA to be useful. Using RDA, Chang et al compared the genome DNA from two tissues, a diseased tissue and a normal tissue, from the same AIDS patient (page 1865, right column, lines 9-13). After "intra-individual" subtraction (i.e. intra-tissue subtraction) of genomic DNA using genomic DNA from one of the two tissues being compared in the "inter-individual" subtraction (i.e. inter-tissue subtraction), Chang et al found one DNA fragment, KS480Bam (page 1865, right column,

the 6th to 9th lines from the bottom of the first full paragraph). However, with Southern hybridization, Chang et al found that two DNA fragments, KS480Bam and KS390Bam, nonspecifically hybridized to the tissues and were thus concluded to be artifacts (page 1865, right column, the last 6 lines). In other words, the "intra-individual" subtraction performed by Chang et al did not eliminate all unwanted DNA fragments from inter-individual subtraction. As a result, Chang et al did not support the desirability of doing intra-individual subtraction in RDA using genomic DNA.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Jehanne Souaya whose telephone number is (703) 308-6565. The examiner can normally be reached Monday-Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached on (703) 308-1152. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Jehanne Souaya

Jehanne Souaya
Primary Examiner
Art Unit 1634

10/2/2003